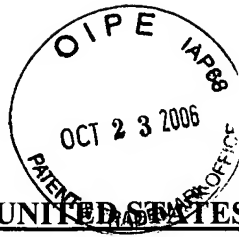


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

DIETRICH et al.

Atty. Ref.: 3691-661; Confirmation No. 4818

Appl. No. 10/797,580

TC/A.U. 1771

Filed: March 11, 2004

Examiner: Piziali, Andrew T.

For: COATED ARTICLE WITH LOW-E COATING INCLUDING IR REFLECTING
LAYER(S) AND CORRESPONDING METHOD

* * * * *

October 23, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Pursuant to the OG Notice of July 12, 2005, applicant hereby requests a pre-appeal brief review of this case for at least the following reasons. This is in response to the Office Action dated June 22, 2006. Claims 1-2, 4-8, 11-16, 18-23, 26-27 and 30-33 are now pending.

Claim 1 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Glaser in view of Depauw. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 1 requires a second layer comprising *zinc oxide located over and contacting the layer consisting essentially of the oxide of NiCr*. For example, the instant specification explains that the use of a layer comprising zinc oxide located over and contacting the oxide of NiCr (which is over and contacting an IR reflecting layer) unexpectedly and surprisingly results in

higher visible transmission, improved thermal stability upon heat treatment, lower sheet resistance, and lower emissivity. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification. In order to stress these unexpected results, claim 1 requires that “*when measured monolithically following heat treatment the coated article has a visible transmission of at least 80%, a sheet resistance (R_s) of less than or equal to 2.5 ohms/square, and a normal emissivity (E_n) of less than or equal to about 0.04.*” The cited art fails to disclose or suggest these features recited in claim 1.

Glaser merely discloses, from the glass substrate outwardly, a layer stack portion of Ag/NiCr/SnO₂/Bi₂O₃. Thus, Glaser clearly fails to disclose or suggest a second layer comprising zinc oxide located over and contacting a layer consisting essentially of the oxide of NiCr as recited in claim 1. Furthermore, Glaser also fails to disclose or suggest heat treatment, let alone a heat treated coated article that can achieve a desirable combination following heat treatment of the combination of visible transmission of at least 80%, sheet resistance (R_s) of less than or equal to 2.5 ohms/square, and a normal emissivity (E_n) of less than or equal to about 0.04 as recited in claim 1. Glaser teaches directly away from the invention of claim 1 in this regard, because Glaser’s single silver coating only has a visible transmission of 77% - much less than that required by claim 1 (note: single silver coatings such as Examples 1-2 of Glaser typically have a transmission much higher than do like double silver coatings due to the additional light-absorbing layer(s) used in double silver coatings).

Citation to Depauw cannot cure the aforesaid fundamental flaws of Glaser.

Depauw teaches to provide “zinc oxide above the sacrificial metal layer” of titanium metal, aluminum metal, stainless steel metal, bismuth metal or tin metal (e.g., col. 4, lines 8-10; col. 3, lines 28-32; col. 5, lines 31-36). However, there is no suggestion or disclosure of

providing such a layer comprising zinc oxide over a NiCrOx layer as required by claim 1. There is simply no teaching or suggestion of providing a layer comprising zinc oxide over NiCrOx as required by claim 1. Hindsight is not permissible.

The Office Action contends that it would have been obvious to have placed a zinc oxide layer above each of the sacrificial metal layers in Glaser. However, even if these were done (which applicant does not believe would be obvious), the invention of claim 1 still would not be met. This is because claim 1 requires a heat treated coated article that can achieve a desirable combination following heat treatment of the combination of visible transmission of at least 80%, sheet resistance (R_s) of less than or equal to 2.5 ohms/square, and a normal emissivity (E_n) of less than or equal to about 0.04. Both Glaser and Depauw fail to disclose or suggest this. For instance, as explained above, Glaser's single silver coating only has a visible transmission of 77% - much less than that required by claim 1 (note: single silver coatings such as Examples 1-2 of Glaser typically have a transmission much higher than do like double silver coatings due to the additional light-absorbing layer(s) used in double silver coatings – thus adding another IR reflecting layer as called for in claim 1 would actually decrease the transmission making Glaser even further from claim 1). Furthermore, Depauw also cannot achieve these features (e.g., Depauw's emissivity of 0.08 is well above that called for in claim 1 – its sheet resistance would also be well outside of the claimed range. Thus, even the alleged combination would not meet the invention of claim 1.

Still further, while applicant disagrees that there is any *prima facie* case of obviousness in this respect, the clear *unexpected results* associated with the invention of claim 1 rebut any possible *prima facie* case of obviousness. For example, the instant specification explains that the use of a layer comprising zinc oxide located over and contacting the layer comprising the oxide

of NiCr (which is over and contacting an IR reflecting layer) unexpectedly and surprisingly results in higher visible transmission, improved thermal stability upon heat treatment, lower sheets resistance, and lower emissivity. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification. Accordingly, it is respectfully requested that the Section 103(a) rejection based on Glaser and Depauw be withdrawn.

The Section 103(a) rejections based on (a) Hartig and Depauw, and (b) Lemmer and Depauw, should likewise be withdrawn. While Depauw teaches to provide “zinc oxide above the sacrificial metal layer” of titanium metal, aluminum metal, stainless steel metal, bismuth metal or tin metal (e.g., col. 4, lines 8-10; col. 3, lines 28-32; col. 5, lines 31-36), there is no suggestion or disclosure of providing such a layer comprising zinc oxide over a NiCrOx based layer as required by claim 1. There is simply no teaching or suggestion of providing a layer comprising zinc oxide over NiCrOx. Hindsight is not permissible. Moreover, these references fail to disclose or suggest the claimed desirable combination following heat treatment of visible transmission of at least 80%, sheet resistance (R_s) of less than or equal to 2.5 ohms/square, and a normal emissivity (E_n) of less than or equal to about 0.04 as recited in claim 1. There is also no suggestion in the cited art for the alleged modifications. Still further, while applicant disagrees that there is any *prima facie* case of obviousness in these respects, the *unexpected results* associated with the invention of claim 1 rebut any possible *prima facie* case of obviousness. For example, the instant specification explains that the use of a layer comprising zinc oxide located over and contacting the layer comprising the oxide of NiCr (which is over and contacting an IR reflecting layer) unexpectedly and surprisingly results in higher visible transmission, improved thermal stability upon heat treatment, lower sheets resistance, and lower emissivity. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification.

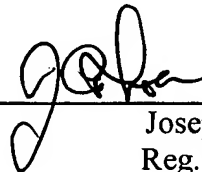
Accordingly, it is respectfully requested that the other Section 103(a) rejections also be withdrawn.

The inventions of claims 15, 30 and 32 also require that when measured monolithically following heat treatment the coated article has a visible transmission of at least 80%, a sheet resistance (R_s) of less than or equal to 2.5 ohms/square, and a normal emissivity (E) of less than or equal to about 0.04. As explained above, the cited art fails to disclose or suggest these requirements, either alone or in the alleged combination(s). Furthermore, the unexpected results associated with the use of the claimed inventions rebuts any allegation of obviousness. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification. Any alleged prima facie case of obviousness is rebutted. Accordingly, it is respectfully requested that the Section 103(a) rejections be withdrawn as to these claims as well.

Respectfully submitted,

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